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09/526,646	03/15/2000	Ming-King "Max" Liu	19917-000200US	1209

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EXAMINER
LEE, CHI HO A

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-2, 9, 10, 17, 18, 25, 35, 37, and 47 are rejected under 35 U.S.C. 102(e)

as being anticipated by Mueller et al U.S. Patent Number 6,052,411.

Re Claims 1, 9, 17, 25, 35, 37 and 47, Prior art fig. 1 teaches a DSL Modem 12

(means for receive section & transmit section) that receives/transmits a DSL signal over

active link 16 (a DSL channel) (See col. 1, lines 40-60); further teaches when DSL

modems 12, 22 determines that no data is being sent or received, a command is issued

to enter an idle state (See col. 4, lines 17-23); once in a idle state, the receiver includes

An Idle State Modulated Symbol Detector (a DSL traffic detector: a data traffic detector)

that detects idle data over the DSL channel (See col. 6, lines 17-24); fig. 6 teaches

flowchart in which the DSP processor (means for processing, detecting, omitting: a

mode selection subsection) in DSL modem controls the operation of the receiver

wherein in Step 606 determines whether non-idle data is not being transmitted over the

DSL channel; further teaches that since idle symbols are transmitted via a

synchronization super-frame maintains synchronization between the DSL modems

(See col. 6, lines 35-45), hence when the receiver exits the idle mode, no loss of

synchronization, i.e., no retraining required (the receive section omits at least some of

the processing required for reception of data from the DSL channel), fig. 2 teaches in

each super-frame (a first predetermined time period), each normal data frame 30 are

replaced with super-frame synchronization frame 32 (See fig. 3 & also see col. 6, lines

17-32) during idle state, furthermore the DRA_Idle_Request, a request to enter a idle

mode, is a particular super-frame boundary, as specified by the super-frame counter

(See col. 5, lines 39-60).

Re Claims 2, 10, 18, refer to Claim 1, wherein the DSP (a host-signal processing)

in the DSP modem is based on ADSL (See col. 7, lines 28-52).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 3-6, 11-14, 19-22, 26-33, 38-45 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Mueller et al 6,052,411 in view of LeVieux et al U.S. Patent

Number 6,560,197.

Re Claims 3, 11, 19 refer to Claim 1, Mueller et al teaches in fig. 6, the DSP

processor determining whether to remain in IDLE state (sleep state) in Step 606 or to

exit IDLE state (normal state) in Step 614 (selective processing subsection), non-idle

data was not transmitted or received during the superframe (a first predetermined

period of time) before entering the idle state, wherein during the "warmup state", the

"sync frame 34" are processed by the controller to maintain connectivity (transceiver

resumes a subset, but not all, of the processing omitted).

Mueller et al fails to explicitly teach the entering "warmup state" in the "selective

processing section" after exiting the idle state and before entering "normal state".

However, LeVieux et al teaches the concentrator 80 to determine whether the

user is actively communicating data (See col. 7, lines 8-33) to enter into a idle state.

Fig. 3 teaches operational flow diagram, the front-end module 20 assigned to the

current call session processes the incoming non-idle data (See steps 110-140). Before,

the call session is setup, it is important to realize that the session characteristics are

saved (See step 260 & also see col. 9, lines 1 +). Upon the relinquishing of the idle

symbol processing by the module 40, control of data processing is exclusively turned

over to the front-end module 20 keeping alive with the user terminal device. This is

analogous to the "sync frame 34" of Mueller, wherein this exclusive processing at the

concentrator 80 omits processing at the High-Level function processing of the saved

session parameters. Thereafter, steps 220-260, determines whether the Non-idle

Symbol is detected to selectively retrieved the save transmission parameters to enable

active data transmission. One skilled in the art would have been motivated by LeVieux

et al to enter "warmup state" that includes retrieving of session parameters of the call

session to reduce processing load and electrical power consumption at the CO for

resource management during idle states of the modems. Therefore, it would have been

obvious to one ordinary skilled to incorporate the teaching of LeVieux et al into the teaching of Mueller.

Re Claims 4, 13, 20, refer to Claim 2, during Idle state, each normal data frame 30 is replaced with sync frame 32, when the modem, determines there is data to be sent or received, a command is issued to exit the idle state (See fig. 4: Mueller). Thereafter, an exit symbol 36 is generated and transmitted to the receiver so as to resume processing of the data frame immediately after the exit symbol 36 at any time within the super-frame and super-frame thereafter (See col. 4, lines 46-63 & See col. 7, lines 28-52: Mueller), wherein the omitted operations are the processing (saved parameters: determining of the omitted processing for the call session: Araujo et al) of each data frame 34 (a second predetermined period of time) after the DRA_Idle_Reply (determines to resume operation) to indicate the end of the idle period and then follow with the next data frame.

Re Claims 5, 13, 20 refer to Claim 3, refer to Claim 4, once the save parameters are retrieved, this resume processing of processing of the data in a active normal state, or may be renegotiated rate (selectively processing subsection) for the particular call session to resumes operation of all of the omitted processing, wherein the some of the operations not omitted would be transmitting & generating of idle symbol during idle state and some of omitted operations would include equalization, echo cancellation, gain control, data rate, pre-coding, encoding mapping and error control parameters which are functions of the High level function processor 90 that are saved parameters for the now re-active call session (See col. 9, lines 1-30: Araujo et al).

Re Claims 6, 14, 21, refer to Claim 3, wherein the operation of the modem is repeated (to again place the subsection in the state to omit at least some of the processing) until another idle period is detected step 150 (a third predetermined period of time).

Re Claims 26, 30, 38, the "resumes at least one of the omitted processing" is dependent on the saved parameters and after set up or renegotiation of the parameters.

Re Claims 27, 39, 42, refer to Claim 26, wherein "only some of the omitted processing" is dependent of retrieval of the saved parameters.

Re Claims 28, 31, 40, 43, refer to Claim 26, wherein all the saved parameters are used to process the data without renegotiation of the parameters.

Re Claims 29, 41, refer to Claim 26, wherein the parameters for the active session are saved after idle symbols are detected.

Re Claims 32, 33, 44, 45, Mueller in view of Araujo et al teaches that the idle periods are predetermined, i.e., data frame 30.

5.   Claims 7, 8, 15, 16, 23, 24, 34, 36, 46, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al 6,052,411 in view of Araujo et al U.S. Patent Number 6,108,350.

Re Claims 7, 15, 23, Mueller teaches detecting whether the user has entered into an idle state. Mueller fails to explicitly teach that the non-idle data are received at an ATM protocol layer. However, Araujo et al teaches an ADSL system wherein the Automatic Stack Detection determine whether the non-idle data are received at an ATM protocol layer. In particular, fig. 3c teaches in step 325, that observe non-idle frames to

determine whether the frames received is from a first or second frame protocol (See col.
13, lines 22 +). One skilled in the art would have been motivated by Araujo et al to
determine whether non-idle data are received at an ATM protocol layer to be adaptive to
different operating protocols. Therefore, it would have been obvious to one ordinary
skilled incorporate the teaching of Araujo et al into the teaching of Mueller.

Re Claims 8, 16, 24, 36, 48, Araujo et al also supports PPP, monitoring IP packet
traffic at an IP ATM interface.

Re Claims 34, 48, one skilled in the art would have been motivated to modify the
idle time period to consistent with the operating protocol over the ADSL system. This
would include modifying the length of idle time period to correspond to the length of the
ATM cell. In this case, the idle time period of the data frame in Mueller would have
been modified to encode ATM length cell. This would have ensured ATM cell
synchronization.

Response to Arguments

6.   Applicant's arguments filed 1/14/04 have been fully considered but they are not
persuasive.

Re Claim 1, Applicant argues that Mueller fails to teach a controller that detects
whether or not the DSL transceiver has neither received nor transmitted non-idle data
over the DSL channel for a first predetermined period of time.

Examiner disagrees.

Mueller teaches that the modem determines that no data is being sent or
received over a super-frame, wherein the DRA_Idle_Request enters idle mode at a

particular superframe boundary (a first predetermined period of time) specified by the

superframe boundary (See col. 5, lines 40-45).

Re independent Claims 25, 37 do not recite "a first predetermined time period".

Applicant's arguments with respect to claim 3 have been considered but are moot

in view of the new ground(s) of rejection.

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andrew Lee whose telephone number is 703-305-1500.

The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

ANDY LEE
AT PATENT EXAMINER
3/21/04